

### **REMARKS/ARGUMENTS**

This is a Preliminary Amendment filed with the enclosed Request for Filing a divisional application under 37 CFR 1.153(b), of pending prior application Serial No. 09/745,042, filed on December 20, 2000 by Russell A. Gaudiana et al. and entitled INTEGRAL ORGANIC LIGHT EMITTING DIODEPRINTHEAD UTILIZING COLOR FILTERS.

#### ***Amendment to the Specification***

The Specification is amended on page 1 to add the section CROSS-REFERENCE TO RELATED APPLICATION and also at pages 10, 11, 13, 14, 23 and 81 to correct noted informalities in the parent application.

#### ***Amendments to the Claims***

Claim 13 remains in its original form

Claims 12, 15-16, and 20-21 have been amended.

Claims 1-11, 14, 17-19 and 22-69 have been cancelled

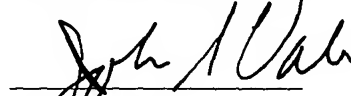
Claims 12-13, 15-16, 20-21 remain in the divisional application.

Amendments have been made to the above noted claims with a view toward the prior art cited in the parent application.

***Amendments to the Drawings***

Enclosed are new formal drawings, Figs. 1-5B, 6A-6H and 7-11 (15 sheets).  
These new drawings are copies of the last to be submitted and accepted drawings  
from the parent application which were corrected to overcome specified informalities.

Respectfully submitted,

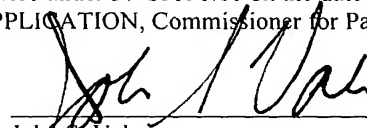
  
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**CERTIFICATION UNDER 37 CFR 1.10**

Express Mail Mailing Label Number: **EI466780118US**  
Date of Deposit: **July 9, 2003**

I hereby certify that the attached patent application is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to MAIL STOP PATENT APPLICATION, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

  
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**AMENDMENTS TO THE SPECIFICATION:**

Please insert at the top of page 1, between the Title and the first section (Field of the Invention) the following section:

**--CROSS-REFERENCE TO RELATED APPLICATION**

This is a divisional application of prior application Serial No. 09/745,042, filed on December 20, 2000 by Russell A. Gaudiana et al. and entitled INTEGRAL ORGANIC LIGHT EMITTING DIODEPRINTHEAD UTILIZING COLOR FILTERS --

Please replace the third paragraph at page 10 with the following rewritten paragraph:

--Fig. 6A is a cross-sectional view, for an actively addressable OLED structure, across three arrays and the underlying OLED structure in the triplet of Fig. 4A 5A and illustrates the components of an actively addressable OLED structure and the color filter arrays for the configuration in which the color filter arrays are deposited onto the light emitting surface of the transparent layer.--

Please replace the last paragraph of page 10 encompassing page 11 with the following rewritten paragraph:

--Fig. 6B is a cross-sectional view, for passively addressable OLED structure, across three arrays and the underlying OLED structure in the triplet of Fig. 4A 5A and illustrates the components of a passively addressable OLED structure and the color filter arrays for the configuration in which the color filter arrays are deposited onto the light emitting surface of the transparent layer.--

Please replace the three full paragraphs at page 11 with the following rewritten paragraphs:

--Fig. 6C is a cross-sectional view, for actively addressable OLED structure, along one array set in Fig. 4B 5B and further illustrates the components of an actively addressable OLED structure and the color filter arrays for the configuration in which the color filter arrays are deposited onto the light emitting surface of the transparent layer;

Fig. 6D is a cross-sectional view, for passively addressable OLED structure, along one array set in Fig. 4B 5B and further illustrates the components of a passively addressable OLED structure and the color filter arrays for the configuration in which the color filter arrays are deposited onto the light emitting surface of the transparent layer.

Fig. 6E is a cross-sectional view, for an actively addressable OLED structure, across three arrays and the underlying OLED structure in the triplet of Fig. 4A 5A and illustrates the components of an actively addressable OLED structure and the color filter arrays for the configuration in which the color filter arrays are deposited onto the OLED structure.--

Please replace the first three paragraphs at page 12 with the following rewritten paragraphs:

--Fig. 6F is a cross-sectional view, for passively addressable OLED structure, across three arrays and the underlying OLED structure in the triplet of Fig.

4A 5A and illustrates the components of a passively addressable OLED structure and the color filter arrays for the configuration in which the color filter arrays are deposited onto the OLED structure.

Fig. 6G is a cross-sectional view, for actively addressable OLED structure, along one array set in Fig. 4B 5B and further illustrates the components of an actively addressable OLED structure and the color filter arrays for the configuration in which the color filter arrays are deposited onto the OLED structure.

Fig. 6H is a cross-sectional view, for passively addressable OLED structure, along one array set in Fig. 4B 5B and further illustrates the components of a passively addressable OLED structure and the color filter arrays for the configuration in which the color filter arrays are deposited onto the OLED structure.--

Please replace the second paragraph at page 13 with the following rewritten paragraph:

--Fig. 10 depicts, for the Printheads of Fig's. 2B and 4B 5B, the calculated intensities for the three wavelength ranges of the triplet, as well as the crosstalk and the point spread function due to elements emitting in the same wavelength range.--

Please replace the last paragraph of page 13 encompassing page 14 with the following rewritten paragraph:

--To provide a printhead that is light and compact, which is the primary object of this invention, an OLED structure is deposited onto a substrate and the printhead is designed for direct quasi-contact printing with the desired pixel sharpness and reduced crosstalk. In order to achieve this objective, radiation in at least three separate wavelength ranges must be delivered to the medium. In one type of embodiments, both OLEDs emitting over a broad range of wavelengths and color filters are deposited onto the substrate. The color filter elements selectively transmit radiation in a different distinct range of wavelengths. In this embodiment, the color filters determine the wavelength range. Another type of embodiments is disclosed in a related application (~~Atty. Docket No. 8476~~) Serial No. 09/749,346, filed December 27, 2000.--

Please replace the last paragraph at page 23 with the following rewritten paragraph:

--Other embodiments are shown in Fig's. 5A, 5B, 6A, 6B, 6C, 6D, 6E, 6F, 6G and 6H. Fig's. ~~4A~~5A, ~~4B~~5B, 6A, 6B, 6C, 6D, 6E, 6F, 6G and 6H include a substrate having a substantially planar first surface oppositely spaced apart from a substantially planar second surface and an individually addressable Organic Light Emitting Diode (OLED) structure. In the embodiment shown in Fig's. 6A, 6B, 6C and 6D, a substantially transparent layer is deposited onto the OLED structure. The substantially transparent layer has a light receiving surface in effective light transmission relation to the transparent anode; the light receiving surface is oppositely

spaced apart from a light emitting surface. A color filter material is deposited onto the light receiving surface of the transparent layer.--

Please delete the current ABSTRACT in its entirety at page 81 and substitute the following new abstract, which comprises 78 words, therefor:

**--ABSTRACT**

~~\_\_\_\_\_ A compact light weight printhead capable of direct quasi-contact printing includes an OLED Color Filter structure deposited onto a substrate. The OLED Color Filter structure includes an OLED structure emitting over a broad range of wavelengths and color filter arrays that selectively transmit radiation in different distinct ranges of wavelengths. The printhead is designed for contact or quasi-contact printing printing, without additional optical elements. The printhead design ensures that the desired pixel sharpness and reduced crosstalk is achieved. Two possible different arrangements for the printhead are disclosed. One arrangement includes at least one array of OLED elements and at least one color filter array. Each color filter array in this arrangement includes at least one triplet of color filters, and each element in each the triplet is capable of transmitting radiation in a distinct wavelength range different from the distinct wavelength range of the other two color filters in the same triplet. In the second arrangement, the printhead includes at least one triplet of arrays of individually addressable Organic Light Emitting Diode (OLED) elements and at least one triplet of arrays of color filter elements, each OLED array in the triplet being in effective light transmission relation to the light receiving surface of one color~~

~~filter array in the triplet thereby constituting an OLED-Color filter array set. In this second arrangement, each color filter array in each triplet has elements that are capable of transmitting radiation in a distinct wavelength range different from the distinct wavelength range of the other two arrays in the triplet.~~

### **ABSTRACT**

A compact light weight printhead capable of direct quasi-contact printing includes an OLED-Color Filter structure deposited onto a substrate. The OLED-Color Filter structure includes an OLED structure emitting over a broad range of wavelengths and color filter arrays that selectively transmit radiation in different distinct ranges of wavelengths. The printhead is designed for contact or quasi-contact printing, without additional optical elements. The printhead design ensures that the desired pixel sharpness and reduced crosstalk is achieved.--